

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

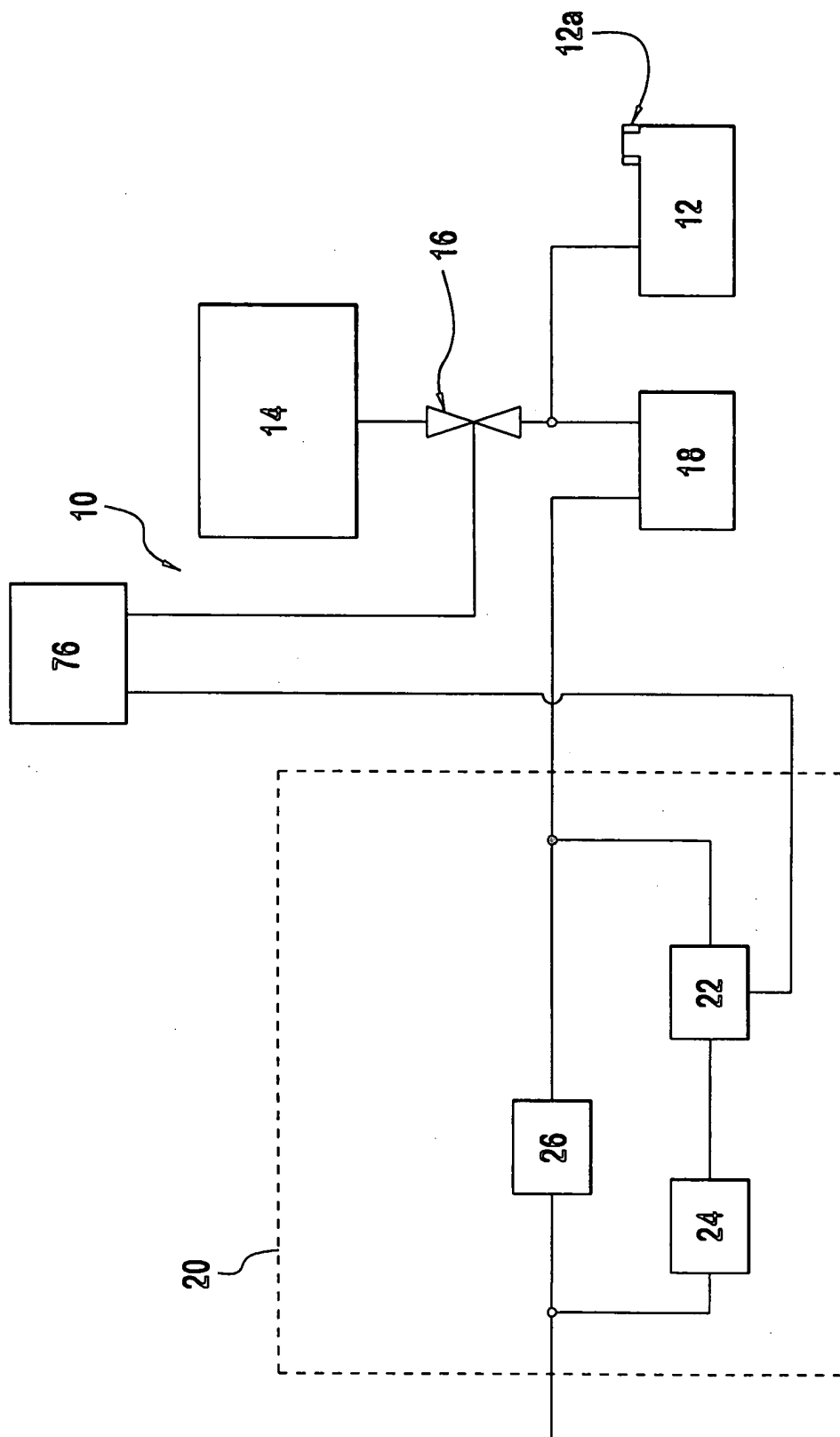


FIG. 1

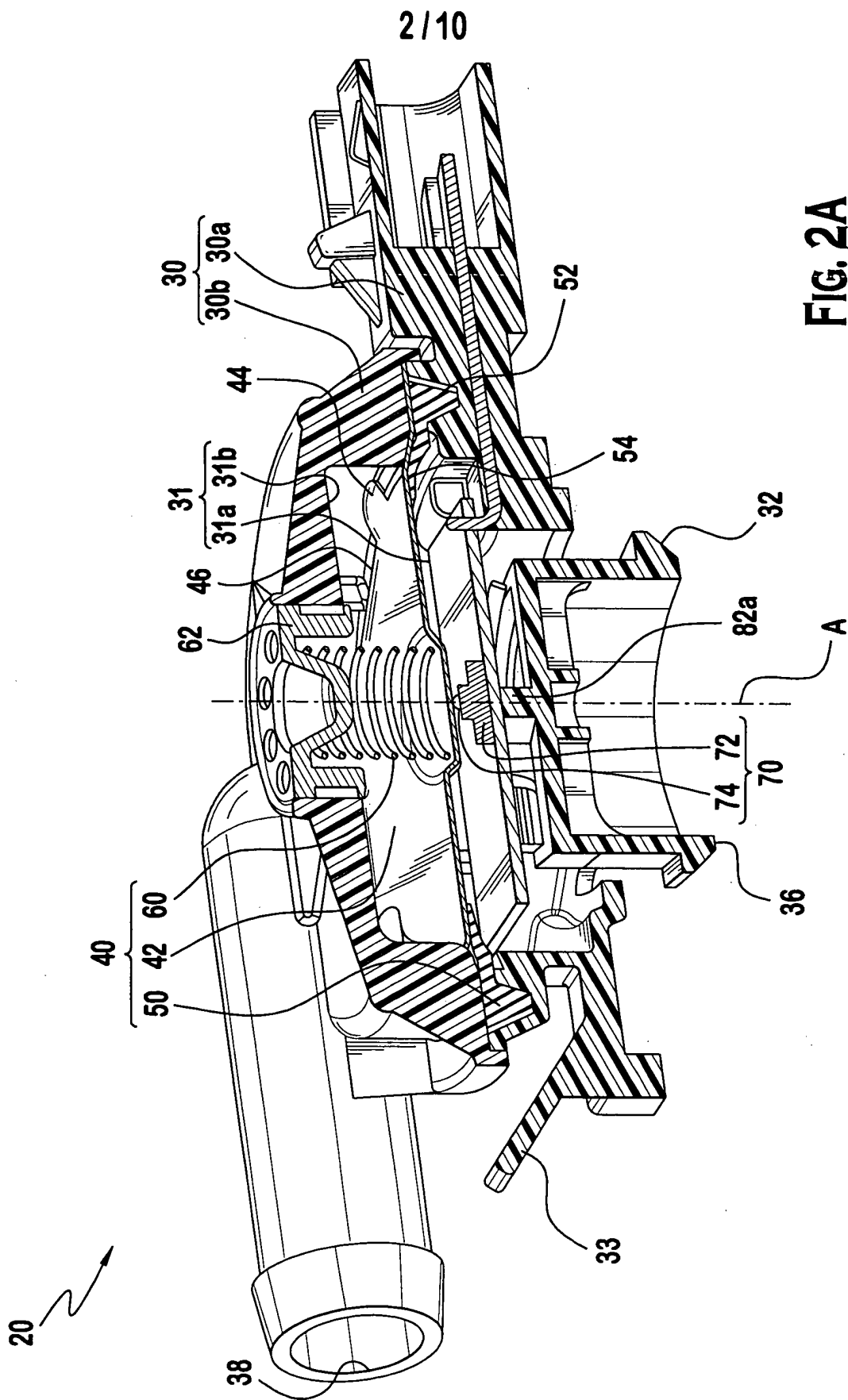
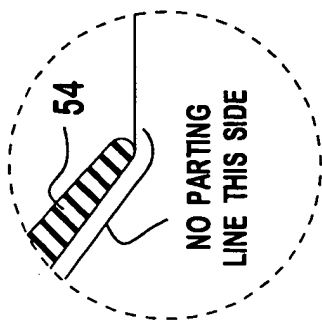
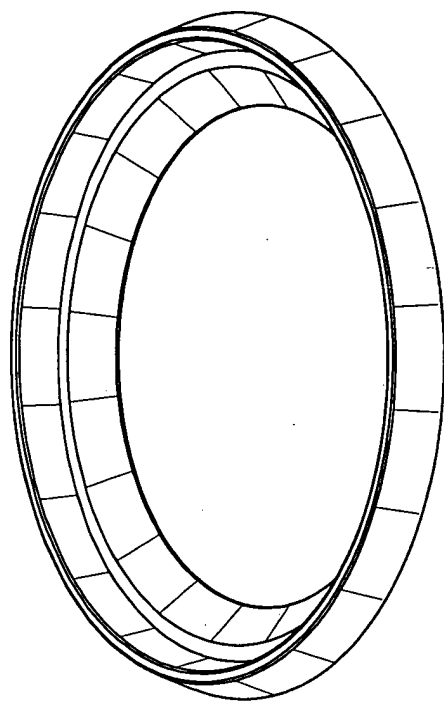
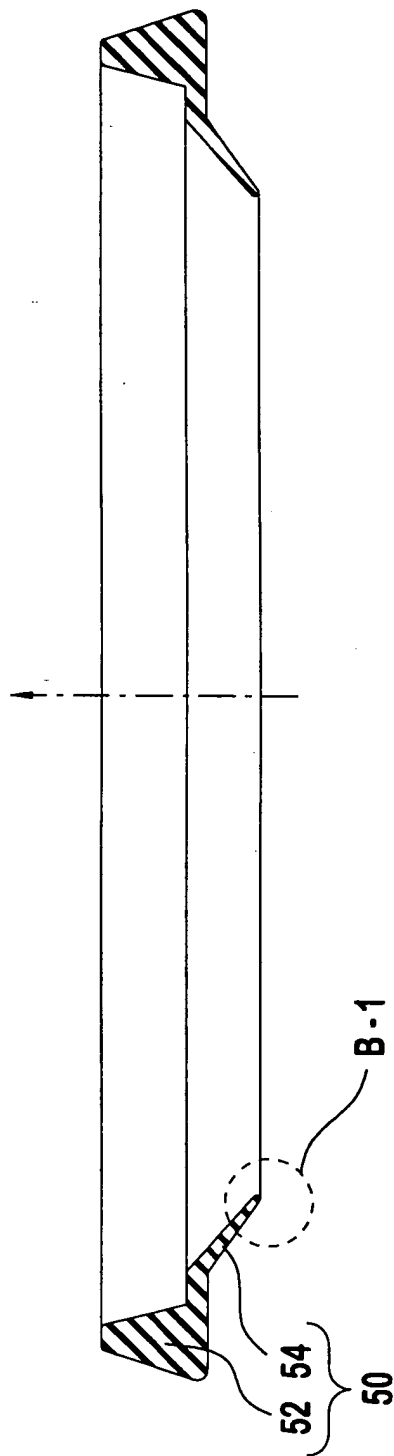


FIG. 2A

FIG. 2B



DETAIL B-1



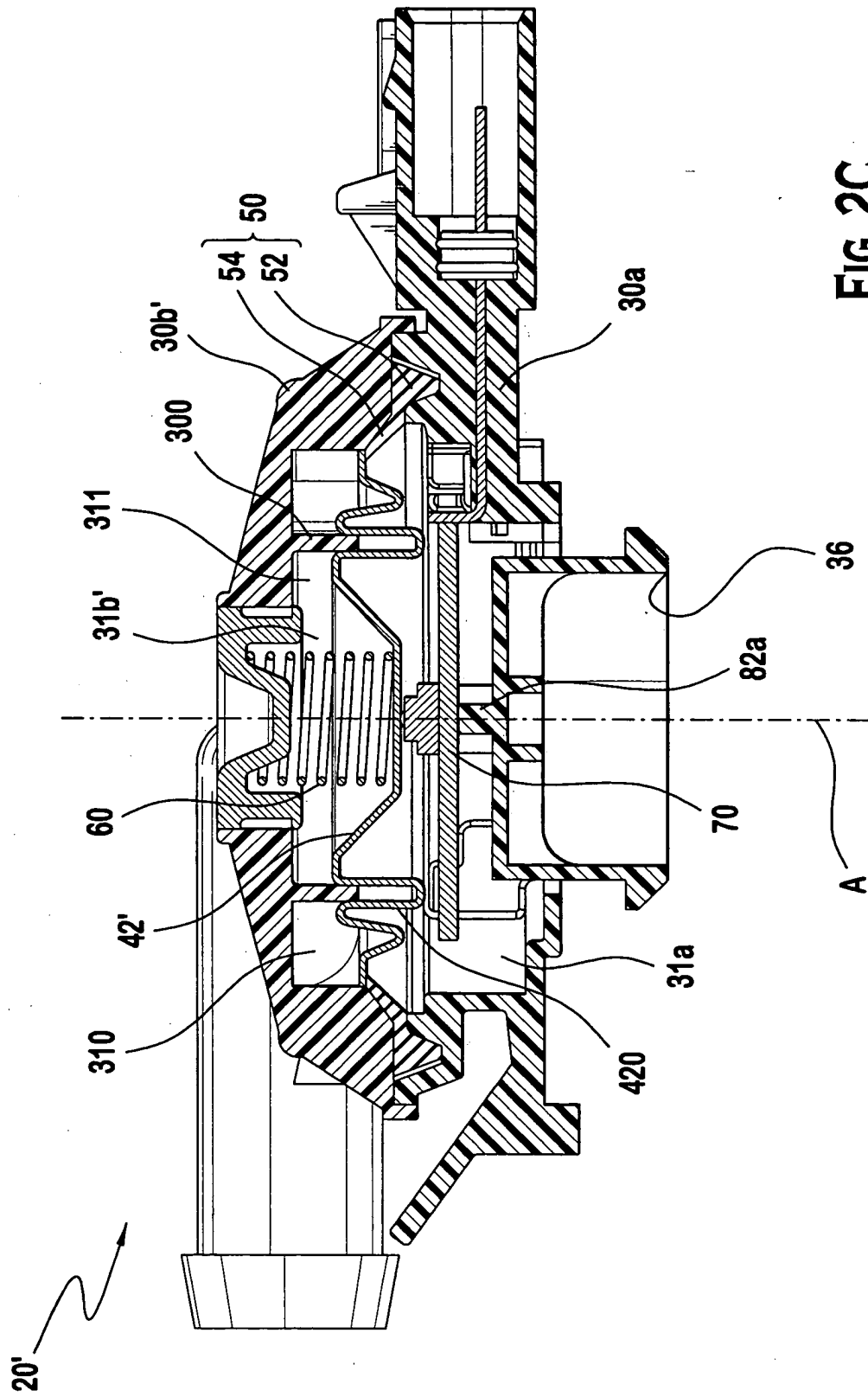


FIG. 2C

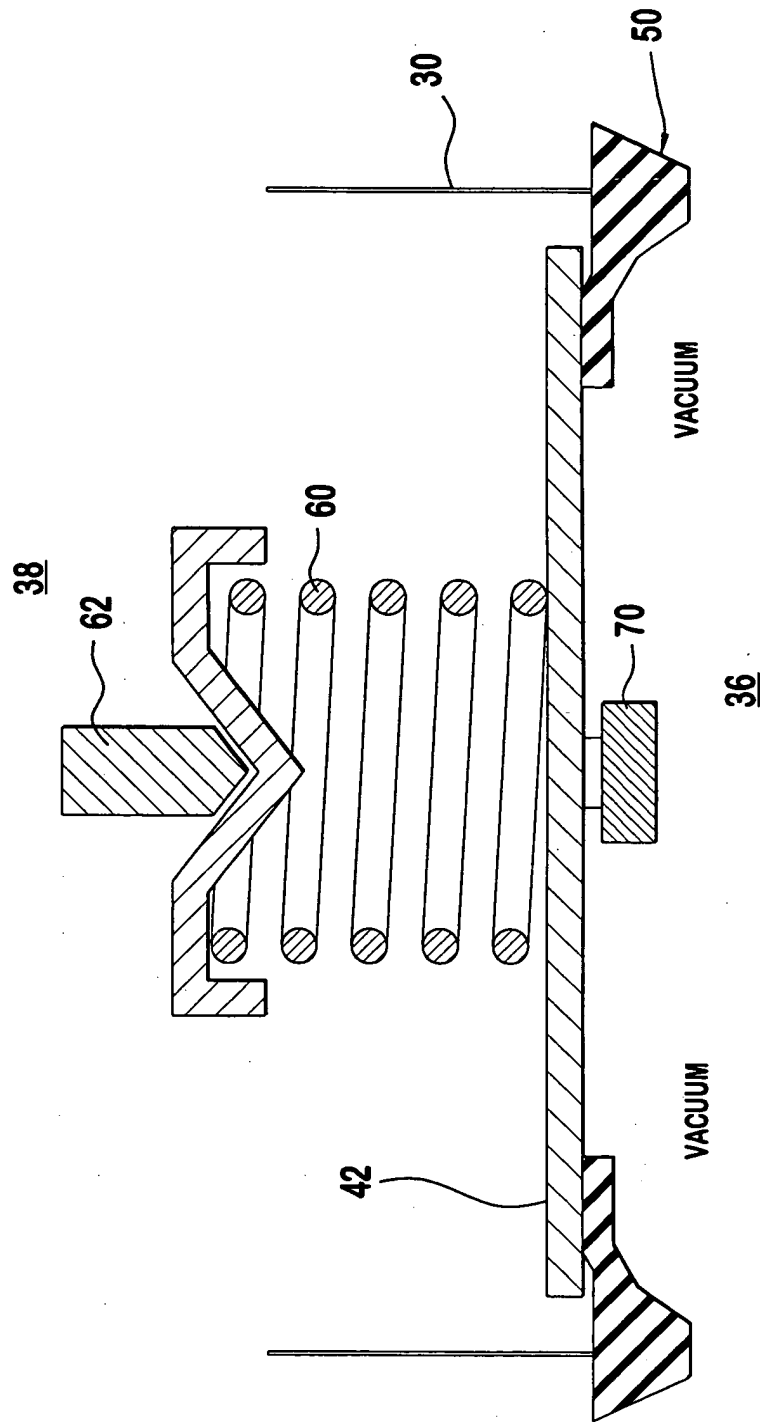


FIG. 3A

6/10

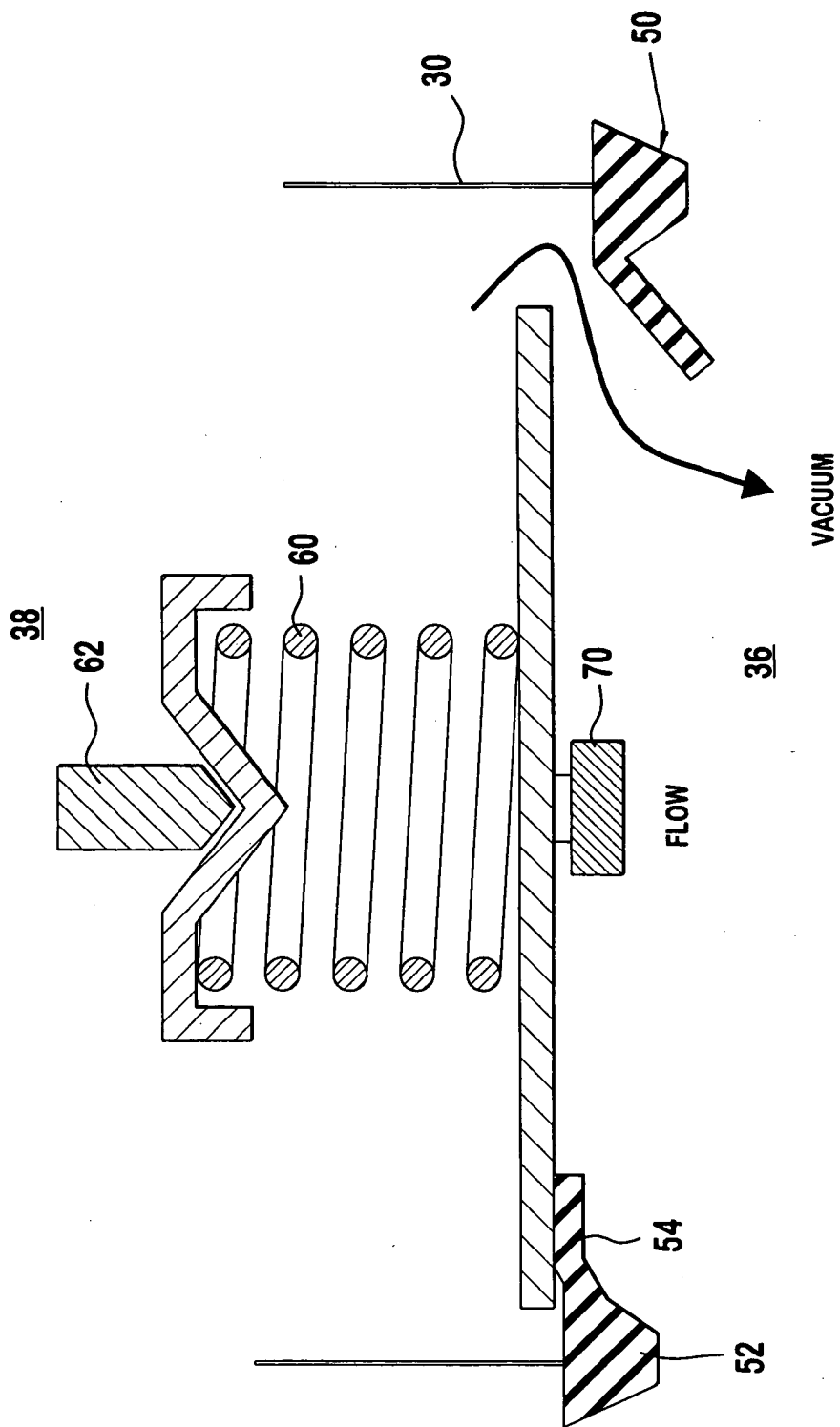


FIG. 3B

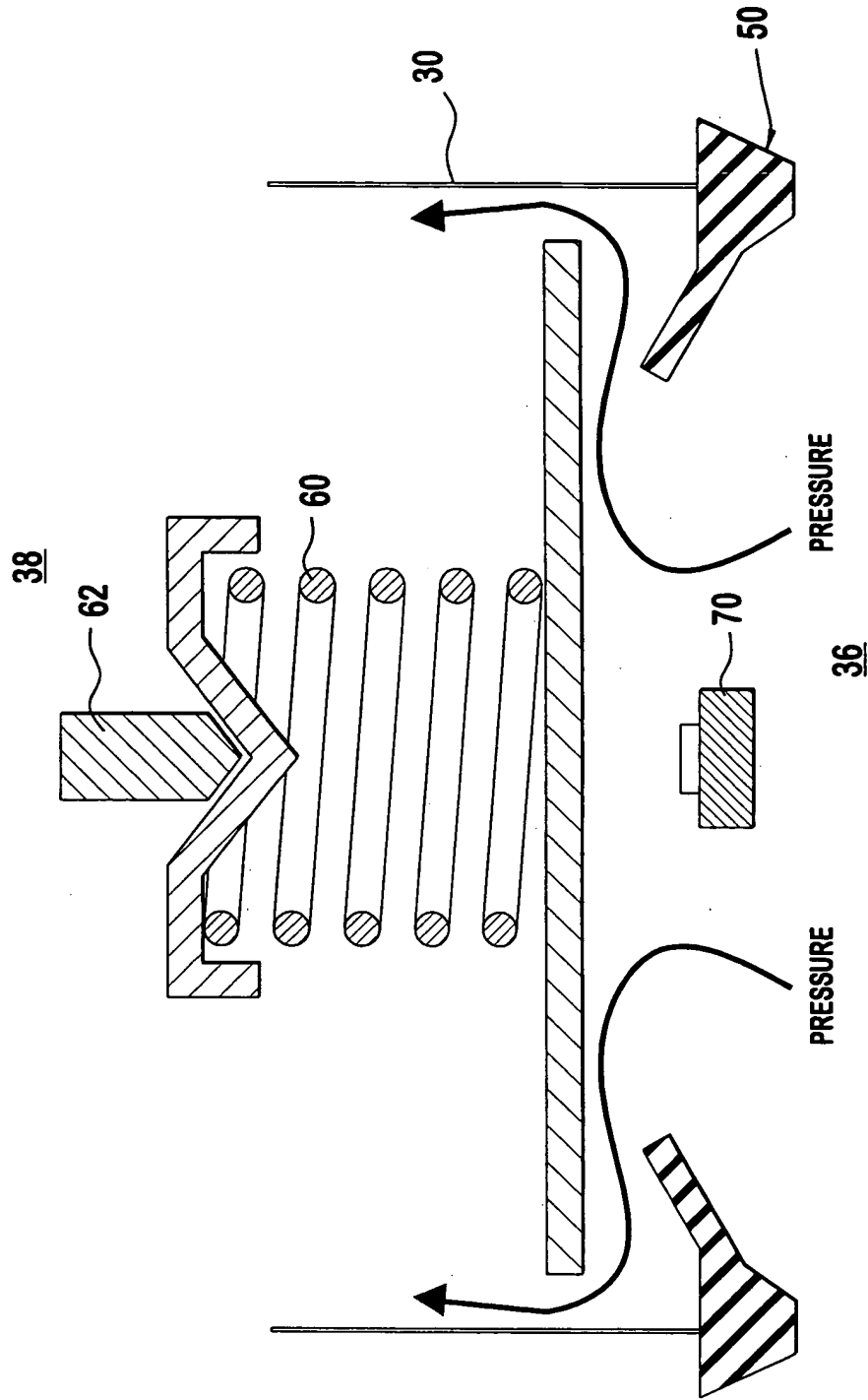


FIG. 3C



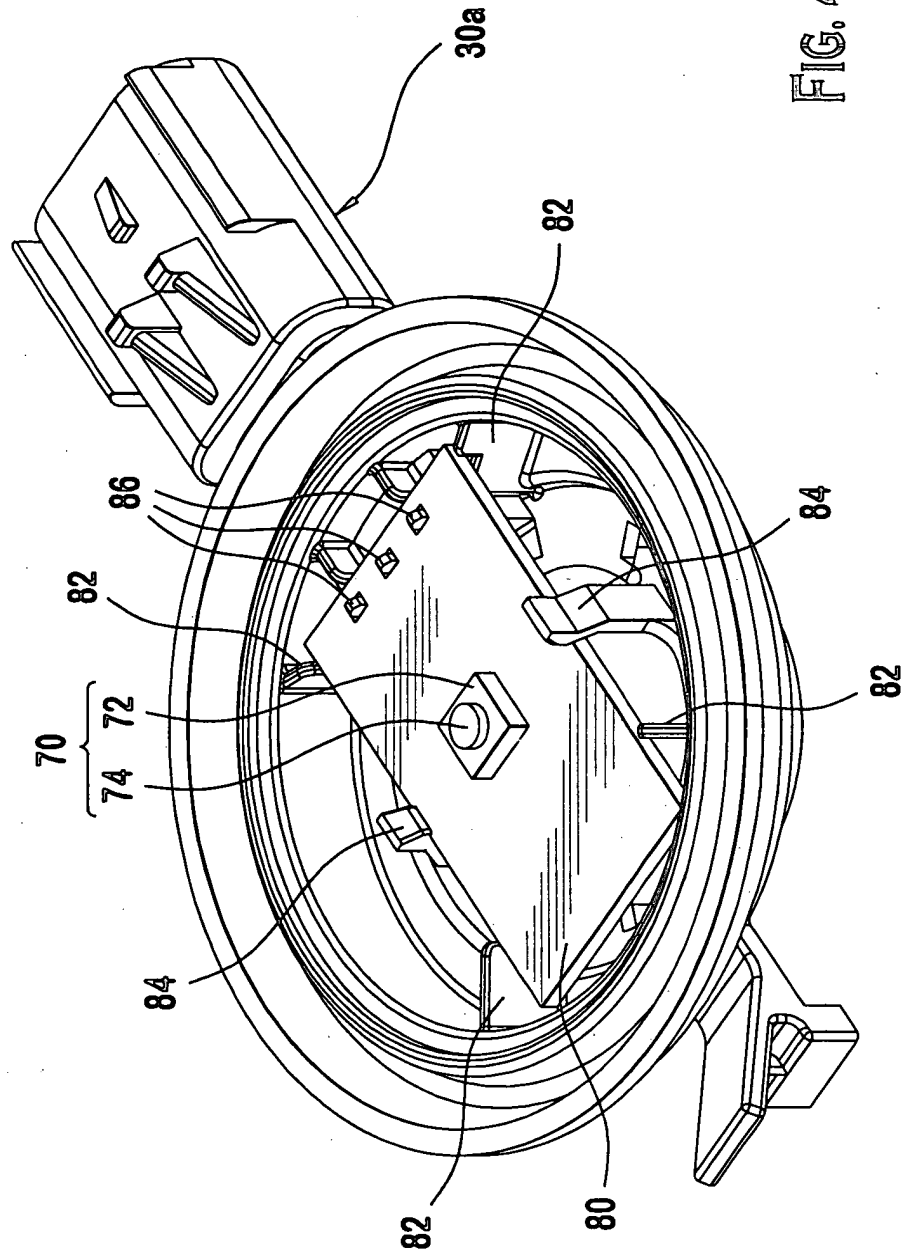


FIG. 4

FIG. 5A

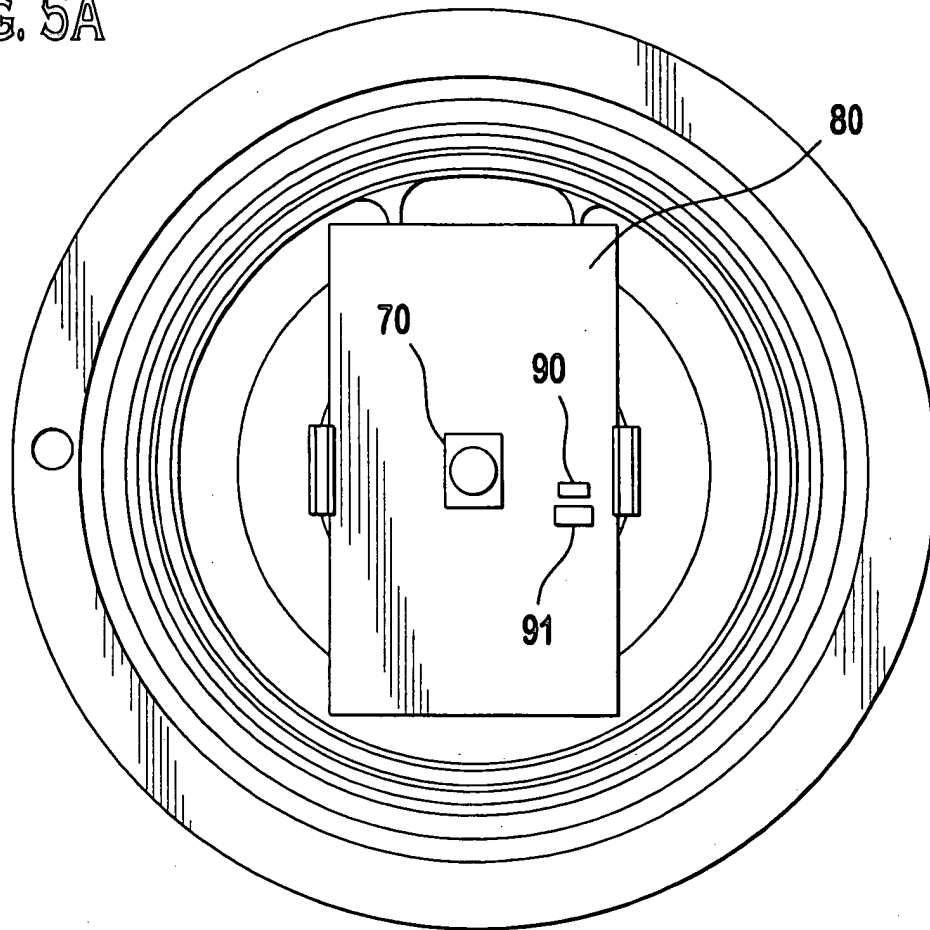
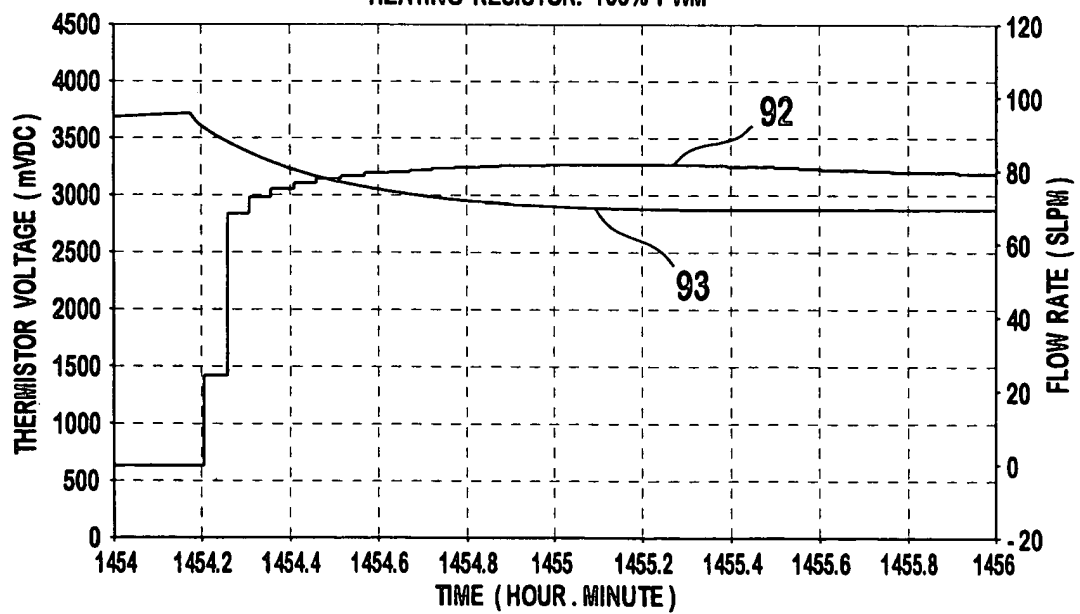
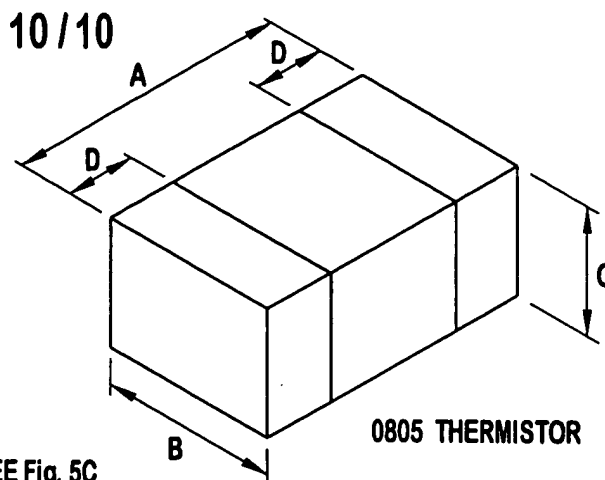


FIG. 5B

STEP CHANGE IN FLOW: 0-80 SLPM  
AMBIENT TEMPERATURE: 20 DEGREES C  
HEATING RESISTOR: 100% PWM



**FIG. 5C**



**TABLE 5C**

0805 STANDARD DIMENSIONS (mm) - SEE Fig. 5C

	AVERAGE	LARGEST	SMALLEST
A	2	2.2	1.8
B	1.25	1.45	1.05
C	0.9	1.1	0.7
D	0.5	0.8	0.2
A - (2xD)	1	1.8	0.2

**TABLE 5D**

CALCULATIONS:

\*USING AVERAGE DIMENSIONS

MATERIAL	RESISTIVITY (Ohm*m)	WIDTH (meters)	WIDTH (mils)	HEIGHT (meters)	HEIGHT (ounce)
COPPER	1.68E - 08	0.001	39.37007874	6.82498E-05	2
NICKEL	6.99E - 08	0.001	39.37007874	6.82498E-05	2
GOLD	2.21E - 08	0.001	39.37007874	6.82498E-05	2

AREA (m^2)	LENGTH (inches)	LENGTH (meters)	RESISTANCE (ohms)	CURRENT (Amps)	POWER (Watts = J/s)
6.82498E-08	0.5	0.0127	0.003126163	2	0.012504652
6.82498E-08	0.5	0.0127	0.013007071	2	0.052028284
6.82498E-08	0.5	0.0127	0.004112393	2	0.016449572

**TABLE 5E**

CALCULATIONS:

\*RESISTIVITY = 260Ω/cm<sup>2</sup>

DIMENSIONS	LENGTH = A - (2xD) (mm)	WIDTH = b (mm)	AREA (mm^2)	AREA (cm^2)
AVERAGE	1	1.25	1.25	0.0125
LARGEST	1.8	1.45	2.61	0.0261
SMALLEST	0.2	1.05	0.21	0.0021

RESISTANCE (ohms)	CURRENT (A)	POWER (W = J/s)
3.25	1	3.25
6.786	1	6.786
0.546	1	0.546